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CENTRAL FAX CENTER PATENT
450100-04791
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REMARKS

In light of the above amendatory matter and remarks to follow, reconsideration and allowance of this application are respectfully solicited.

In the Office Action under reply, the Examiner required a new title. By this amendment, a new title that is descriptive of the claimed invention is provided.

Claims 1-4 were rejected under 35 USC 102 as being anticipated by U.S. Patent 6,667,471 (Bos). Claim 5 was rejected under 35 USC 103 as being unpatentable over the combination of Bos and Nagano (U.S. Patent 6,952,233).

By this amendment, claims 1-4 are canceled and claim 5 is amended to distinguish over the combination of Bos and Nagano.

As presented, claim 5 is directed to an imaging apparatus including an optical barrel, fixed and movable barrels, an iris, a solid-state image sensor and an electro-chromic device interposed between the iris and the image sensor for adjusting the amount of infrared light that is transmitted through the iris and through the electro-chromic device to the sensor. It is respectfully submitted that this claimed combination of the iris and the infrared controlling electro-chromic device, disposed on the optical axis, is patentably distinct over Bos and Nagano. In Applicant's claimed invention, the iris controls the amount of light that is transmitted to the electro-chromic device and the electro-chromic device controls the amount of infrared light that is transmitted to the sensor.

By contrast, Bos describes an electro-optic filter 118 that is de-energized when lighting conditions are low, such as at nighttime, and is energized in higher intensity light conditions such as daytime (see column 14, lines 25-44 of Bos). Electro-optic filter 118 controls the amount of light that is received by a sensor array 112 (column 11, lines 35-38) such that scenes which may

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radiate a substantial amount of infrared and/or near infrared light will not distort the color image captured by the sensor 112 (column 13, lines 54-60). But Bos does not describe the use of an iris. This is because the very same electro-optic filter functions as an iris in Bos, such as schematically shown in Figs. 4A and 4B and described with respect to Fig. 1. Hence, there would be no need and, in fact, no use for Bos to use both an iris and his electro-optic filter.

Nagano describes the use of an electro-chromic device as an iris (column 6, lines 44-49 of Nagano). Thus, the addition of Nagano to Bos would not add to the teachings of Bos alone. That is, the use of an electro-chromic device to function both as a light filter as well as a light attenuator in one device is the clear result from combining these references. Stated otherwise, one of ordinary skill in the art, after reading and understanding Bos would recognize that an iris, as a separate element in an imaging apparatus, is not needed and, moreover, should be avoided. After all, neither Bos nor Nagano suggests the use of separate iris and electro-optic devices for the purpose of controlling both the amount of visible light and the amount of infrared light that should be transmitted to a sensor. Both Bos and Nagano use but a single electro-optic device for both purposes. While this may be sufficient for Bos' vehicular imaging system in which sharply defined images in low light conditions are not particularly important, the combination of an iris separate and apart from the electro-chromic infrared adjuster in accordance with the present invention provides improved night shot shooting for the camera with which the invention is used.

Therefore, in view of the significant and unobvious differences between Applicant's claim 5 and the cumulative teachings of Bos and Nagano, and further in view of the fact that, even when Nagano is added to Bos, the resultant combination still is not suggestive of the separate iris and electro-chromic device defined by claim 5, the withdrawal of the rejection of this claim is respectfully solicited.

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Statements appearing above in respect to the disclosures in the cited references represent the present opinions of the undersigned attorney and, in the event the Examiner disagrees with any of such opinions, it is respectfully requested that the Examiner specifically indicate those portions of the references providing the basis for a contrary view.

Please charge any additional fees that may be needed, and credit any overpayment, to our Deposit Account No. 50-0320.

Respectfully submitted,
FROMMER LAWRENCE & HAUG LLP

By: 

William S. Frommer
Reg. No. 25,506
(212) 588-0800